

# Education and Training Empowerment for Posbindu Cadres to Prevent Non-Communicable Diseases in Sendangmulyo Village, Semarang City

 Nurul Qomariyah<sup>1\*</sup>,  SY. Didik Widiyanto<sup>2</sup>,  Ririh Jatmi Wikandari<sup>3</sup>,  Rachmad Bayu Kuncara<sup>4</sup>

<sup>1,2,3,4</sup>Poltekkes Kemenkes Semarang  
Jawa Tengah, Indonesia

✉ [nurulnuruld4@gmail.com](mailto:nurulnuruld4@gmail.com)<sup>1\*</sup>

✉ [sy.didik@yahoo.co.id](mailto:sy.didik@yahoo.co.id)<sup>2\*</sup>

✉ [j.ririh@gmail.com](mailto:j.ririh@gmail.com)<sup>3\*</sup>

✉ [rachmad\\_bayu@poltekkes-smg.ac.id](mailto:rachmad_bayu@poltekkes-smg.ac.id)<sup>4\*</sup>



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## Abstract

The purpose of this PPDM is to strengthen the cadre of Posbindu PTM officers in 3 RW of Sendangmulyo village in order to provide optimal health services and how to increase awareness of their own health and family, so as to reduce the number of NCD patients. The targets of PPDM are cadres of Posbindu PTM Officers in RW 15, 20 and 24 Sendangmulyo urban villages, Tembalang sub-district, Semarang City. The method used is education, training 15 cadres of Posbindu PTM officers, to be implemented during Posbindu PTM in their RW routinely in the form of health counseling) and providing services for checking blood pressure, weight, height, abdominal circumference, cholesterol, uric acid and blood sugar, as well as consulting services about complaints felt by residents, then conducted monitoring and evaluation by pengabdi related to improving the quality of health services carried out by cadres of Posbindu PTM officers after being trained. The results obtained are that residents feel more able to know their health conditions so that they can improve their health conditions on the basis of direction, advice from officers at table 5 and the quality of service is getting faster, dexterous, and looks skilled in the use of tools.

## A. Introduction

One of the problems faced in health development today is the shift in disease patterns from communicable diseases to non-communicable diseases. Reports from the WHO show that NCDs are by far the leading cause of death in the world, representing 63% of all annual deaths. NCDs kill more than 36 million people every year. Cardiovascular disease causes the most NCD deaths at 17.3 million people per year, followed by cancer at 7.6 million, respiratory diseases at 4.2 million, and DM at 1.3 million. These four disease groups account for about 80% of all NCD deaths (Untad et al., 2022).

The increasing prevalence of NCDs has an impact on increasing the burden of health financing. This is because the treatment of non-communicable diseases requires a long time and expensive technology that requires high costs in prevention and control. The World Economic Forum's April 2015 publication shows that potential losses due to non-communicable diseases in Indonesia in the 2012-2030 period are predicted to reach US\$ 4.47 trillion, or 5.1 times the 2012 GDP (Untad et al., 2022).

The government in Indonesia is making efforts to improve health services, especially in health services for non-communicable diseases in productive age to the elderly (age  $\geq 15$  years), among others, by establishing the Integrated Development Post (Posbindu) service (Lee & Rajandran, 2024). Posbindu PTM is one of the community-based health efforts (UKBM) through promotion and prevention, and reduction of NCD risk factors with early detection and integrated, routine and periodic monitoring (Sari et al., 2023).

Improved health services for people of productive age to the elderly (aged  $\geq 15$  years) are needed to realize healthy, qualified, and productive citizens or communities until their old age. This health service does not

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only provide services for curative efforts, but also focuses on promotive and preventive efforts in the hope of improving the quality of life (Bancin & Sidabukke, 2020; Fritz et al., 2024).

The tendency of today's society is that many suffer from non-communicable diseases such as diabetes, kidney problems, hepatic disorders, heart problems, hypertension, stroke and others, regardless of age at a young age, this is possible due to the tendency of unhealthy behavior in their daily lives such as frequent consumption of junk food and soft drinks and lack of attention to health independently by always controlling their health at health services both Puskesmas and Hospitals (Siswati, Margono, et al., 2022; Susanto et al., 2023).

Prevention of NCDs can be prevented by controlling several risk factors, according to the PTM Posbindu Cadre Smart Book, healthy living behavior that can be applied by residents is the CERDIK slogan, namely periodic health checks, get rid of cigarette smoke, diligent physical activity, balanced healthy diet, adequate rest, manage stress. Knowledge about healthy living behavior can be obtained through Posbindu PTM activities so that residents are able to prevent and conduct early detection to reduce the risk of developing PTM (Pertiwati et al., 2024; Siswati, Paramashanti, et al., 2022).

As a government program, the number of Posbindu in Indonesia is still very limited due to lack of community initiative and participation in NCD prevention activities (Mustajab & Romdiyah, 2024). According to information from the Secretary of the Village Head, the Head of FKK, the cadres of Posbindu PTM 32 RW Sendangmulyo village as well as from the Kedungmundu Puskesmas officers, there are several obstacles encountered to mobilize and implement Posbindu PTM activities, namely the limited human resources who are willing to volunteer as Posbindu PTM officers in each RW, the unavailability of infrastructure facilities that support the implementation of Posbindu activities in each RW, limited skills in operating health equipment used in health services at Posbindu PTM and many still do not know about NCD knowledge so that RWs that have implemented Posbindu PTM activities, residents who attend to check themselves tend to be few because they see and feel the limitations of services that have not been maximized.

Based on these problems, the purpose of this community service (PPDM) is to strengthen the cadres of Posbindu PTM Officers in 3 RW of Sendangmulyo village, namely RW 15, 20 and 24 so that they can provide maximum health services properly and correctly through Posbindu PTM activities and can find out residents' complaints, especially cases of non-communicable diseases and at the same time can provide counseling to residents on how to independently raise awareness of their own health and family, which in turn can reduce the number or number of non-communicable disease sufferers in the local RW.

The target of this activity is the cadre of Posbindu PTM officers RW 15, 20 and 24 Sendangmulyo village, Tembalang sub-district, Semarang City.

From the description above, as a service provider, I read the need for a concern to provide education and training for cadres of Posbindu PTM officers of Sendangmulyo residents as a form of concern for service providers within the Poltekkes Kemenkes Semarang Educational Institution, and carry out service by providing strengthening to Posbindu PTM cadres in the form of Posbindu PTM service training starting from knowledge, and skills in conducting health checks including checking blood pressure, weight, TB, abdominal circumference, laboratory tests of blood glucose, uric acid and blood cholesterol levels between August-September 2023 and evaluating their implementation in Posbindu PTM services in local RW in September 2023 so as to provide an increase in Posbindu PTM services and can realize a decrease in morbidity or NCD cases in local residents in RW Sendangmulyo village.

## **B. Research Methods**

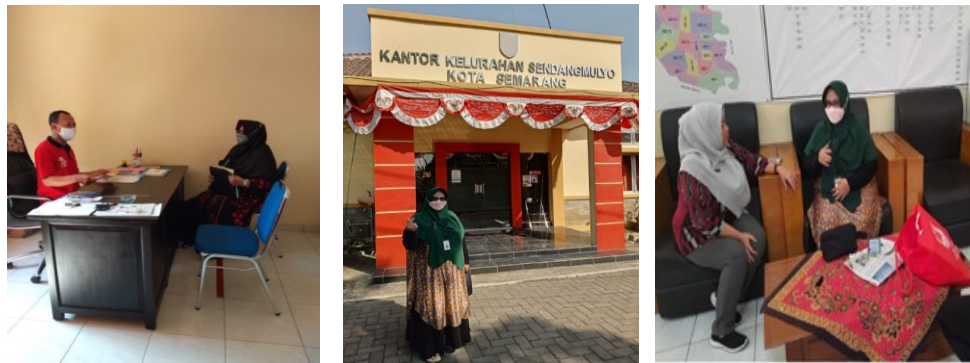
This series of PPDM activities began in April 2023 - December 2023 August 2023, while the implementation of education and training on Posbindu PTM officer cadres for the prevention of non-communicable diseases in Sendangmulyo Village, Semarang city from August 2023 - October 2023. The target of this PPDM activity is 15 participants as Posbindu PTM Officer Cadres from 3 RW in Sendangmulyo Village, namely RW 15, 20 and 24.

This PPDM activity aims to increase the knowledge of NCDs and skills in the use of health equipment that is always used to provide health services to residents at Posbindu PTM activities in local RWs so that the examination process during Posbindu PTM can be easily and quickly served by all residents and will have a positive impact on motivated residents to always pay attention to their health by diligently checking their health to Posbindu PTM and can reduce the incidence of NCDs and increase the degree of health in

Sendangmulyo urban residents who are the Assisted Village of the Bachelor of Applied Medical Laboratory Technology Study Program, Department of Health Analysts, Poltekkes Kemenkes Semarang.

The process of implementing PPDM activities is carried out in several stages as follows:

- 1) The preparation stage: is the initial stage of PPDM implementation in the form of exploration as well as licensing to Sendangmulyo Village which is the target village of the STR-TLM study program, Department of Health Analysis, Poltekkes Kemenkes Semarang in April 2023.



**Figure 1.** Exploration and Licensing to Sendangmulyo Village Head

After obtaining permission, the service team held a coordination meeting with the head of the FKK Sendangmulyo village, with the Kedungmundu Puskesmas officer who handles the Posbindu PTM program to determine which RW needed to be made a participant in this PPDM activity.

- 2) Coordination stage: is the stage of conducting a coordination meeting with the head of the RW PKK which will be the target of this PPDM activity, namely RW 15, 20 and 24 to prepare officers appointed as participants in education and training in PPDM activities. Furthermore, inviting the Lurah, Head of Puskesmas and Posbindu PTM Kedungmundu section, all participants and the head of PKK RW 15, 20 and 24 Sendangmulyo village and resource person Dr. Maulana from the Semarang City Provincial Health Office.
- 3) The Implementation Stage: is the stage of implementing Education and Training activities to the cadres of Posbindu PTM officers RW 15, 20 and 24 as many as 15 people in the Sendangmulyo Village multipurpose building on Klipang Raya street RT. 01 RW. 01 Sendangmulyo sub-district Tembalang postal code 50272. Preceded by a pre-test, then remarks from the head of service, Sendangmulyo village head and then the presentation of material by Dr. Maulana about PTM and Posbindu PTM 5 table services and an explanation by the head of service about the SOP for using good and correct health instruments for Posbindu PTM services. Furthermore, discussion and provision of KIT Posbindu PTM tools followed by the practice of using health instruments and simulating Posbindu PTM services with 5 tables, namely table 1: registration, table 2: interview, table 3: measurement of weight and height, table 4: measurement of blood pressure and simple blood tests, table 5: counseling, then ended with a Post-test. Can be seen in the picture below.



Pretest



Remarks by the Head of Service



Remarks by the Secretary Of the Village





**Figure 2.** Documentation of PPDM Activities

Post-Education and Training Monitoring and Evaluation is conducted using survey techniques and direct observation to the field where Posbindu PTM in RW is implemented.



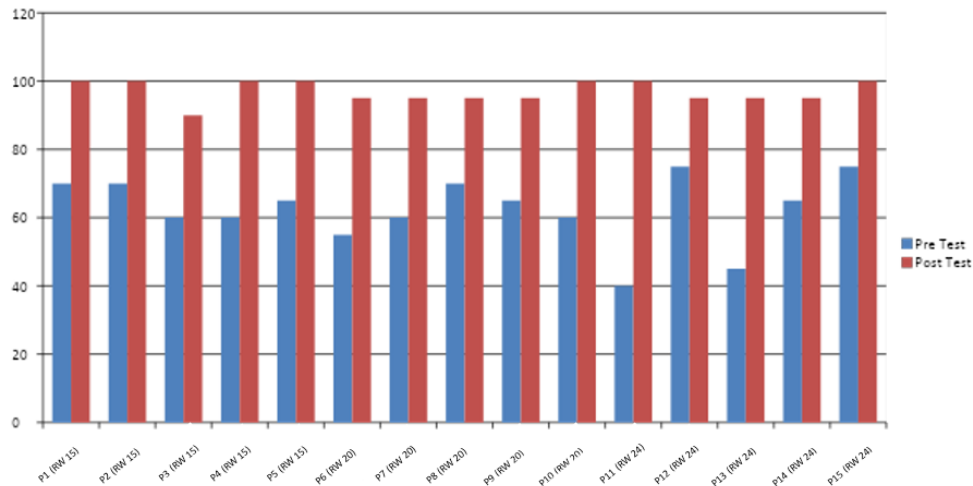
**Figure 3.** Documentation of Monev of Posbindu PTM Service Implementation in RW After Education and Training

The method of collecting data on the results of PPDM activities in empowering education and training is by giving pre and post-tests with questionnaire instruments and the analysis technique is by comparing the results of the correct score on the pre-test with the post-test of the activity participants whether there is an increase in the post-test score, and during monitoring and evaluation of post-education and training activities by direct observation to the field during the implementation of Posbindu PTM implementation in their respective RWs in the following month, by looking at the skills of using examination tools and the smooth running of services in Posbindu PTM activities at the

5 tables as well as the responses of residents who come to check their health at Posbindu PTM regarding the difference in Posbindu PTM officer services in the past month with current officer services including dexterity and skills in using tools when conducting health checks so that they are faster and more confident in the results they deliver and also the way of counseling, direction and advice given by officers related to PTM and how to pay attention to their health regularly and independently in order to obtain an increased degree of health.

### C. Result and Discussion

The results of the first PPDM activity, namely the cadre of Posbindu PTM officers, there was a significant increase in scores between the pre-test and post-test activities as shown in Figure 4 below.



**Figure 4.** . Graph of Pre-test and Post-test Results of Education and Training Activities on Posbindu PTM Officer Cadres for Non-Communicable Disease Prevention in Sendangmulyo Village, Semarang City

While the results of post-education and training of Posbindu PTM officer cadres in the implementation of Posbindu PTM activity services in their respective RWs can be seen in table. 1 below.

**Table 1.** Results of Post-Education and Training of Posbindu PTM Cadre Officers in the Implementation of Posbindu PTM Services in Each RW

No.	Elements	Pre-education	Post-education
1.	Knowledge about NCDs and Posbindu PTM services as a promotive and preventive effort against the incidence of non-communicable diseases	A small number of cadre officers know about NCDs and good and correct services at Posbindu PTM activities.	All cadre officers know about NCDs and good and correct services at Posbindu PTM activities so that they can provide counseling according to residents' complaints.
2.	Skill in using health equipment for health checks (tensimeter, weight and height measuring instrument/Stadiometer, abdominal circumference meter, POCT).	Most of the officer cadres are not yet skilled in the use of medical devices for health checks.	All officer cadres have begun to be skilled in the use of medical devices for health checks. So that the health examination process is fast and smooth
3.	Residents' responses to the improvement of health examination services by skillful counseling and use of health equipment that must be used when Posbindu PTM activities are carried out compared to previous services.	Most of the officer cadres are still not very skilled in services and the use of tools for health checks so that the examination process is slow when Posbindu PTM is running.	All cadres of officers are skilled in the service and use of tools for health checks so that the examination process during Posbindu PTM is smooth and quickly served all residents who come so that residents are happy and motivated to diligently come to the next Posbindu PTM.

Based on table.1, the results of post-MONV PPDM activities show that residents feel more able to know their health conditions from the results of counseling and explanations of Posbindu PTM officers for their complaints so that they can get direction and advice from officers at table 5 on how to improve their health conditions and the quality of service is getting faster, dexterous, and looks skilled in using tools, and the service process is no longer slow so that it has a positive impact on residents to be more enthusiastic about checking their health independently and routinely to Posbindu PTM in the local RW.

In line with the theory of Lawrence Green and Andersen where the role of cadres is one of the supporting factors in health behavior as an accompanying factor in behavior in settling or disappearing behavior, so that the sustainability of Posbindu PTM depends on the support of cadres and local health workers (Supriyatna et al., 2020; Valentina et al., 2023). In addition, improving the quality and quantity of cadres also affects services to residents, so that training from the supervising health center on material about NCDs to obtain special certificates and SK Posbindu PTM. Where based on the technical guidelines for Posbindu PTM from the Ministry of Health of the Republic of Indonesia in 2016, the implementation of Posbindu PTM is carried out by cadres with the criteria of having a minimum high school education, being able to read and write, being able and willing to carry out activities related to Posbindu, and being trained certified or at least having received a certificate of having been trained by health workers from the supervising puskesmas (Mahdur & Sulistiadi, 2020).

The positive impact of Posbindu PTM activities is expected to be felt by all residents with an increase in information about health which is expected to be able to increase residents' knowledge about preventing and overcoming existing health problems, because the more information obtained, the more their knowledge increases (Juita & Elfindri, 2022). The benefits of Posbindu PTM activities must be felt by residents who are increasingly widespread, with health monitoring through health checks and several other activities that increase the knowledge and health of residents that need to be held such as gymnastics so that it can be an attraction so that more residents participate in Posbindu PTM activities so that it is expected to improve the quality of life of residents (Wibawa et al., 2024).

Sustainability of activities should be carried out routinely once a month, so that residents' health is monitored properly. Support from various parties such as families will be able to increase the motivation of residents to attend Posbindu activities regularly. Support from community leaders and local health workers will support the sustainability of cadres in carrying out activities and supporting the facilities and infrastructure needed so that Posbindu activities are able to run regularly every month (Mashuri et al., 2024; Pongsapan et al., 2024).

#### D. Conclusion

With the Education and Training on Posbindu PTM officer cadres for the prevention of non-communicable diseases in Sendangmulyo Village, Semarang City in this PPDM activity, it has a very positive impact, namely Posbindu officers in RW 15, 20 and 24 Sendangmulyo Village, Tembalang Subdistrict, Semarang City, understand more about PTM and how to provide counseling to residents and are skilled in using health examination tools so as to speed up the process of examining residents' health and provide motivation for residents to routinely check their health independently to Posbindu PTM in their respective RW.

#### E. Acknowledgment

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